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Subject: Environmental Defense comments on 3,4,5,6-Tetrachloro-2-Pyridine Carbonitrile (CAS# 17824-83-8)

(Submitted via Internet 6/2/04 to oppt.ncic@epa.gov, hpv.chemrtk@epa.gov, boswell.karen@epa.gov, chem.rtk@epa.gov, luciarg@msn.com and Ggarvin@dow.com)

Environmental Defense appreciates this opportunity to submit comments on the robust summary/test plan for 3,4,5,6-Tetrachloro-2-Pyridine Carbonitrile (CAS# 17824-83-8).

The test plan and robust summaries for 3,4,5,6-tetrachloro-2-pyridine carbonitrile (TCPCN) were submitted by The Dow Chemical Company. According to the test plan, this substance is produced as a site-limited intermediate used in the production of chlorinated pesticides.

The sponsor asserts that existing data are adequate to meet HPV requirements. This assertion hinges on two key issues. First, it is stated that TCPCN is exclusively produced, contained and consumed at a single site in Freeport TX. This statement in the test plan is apparently contradicted by information in the robust summaries that indicates that TCPCN is also an impurity in 2,3,4,5,6-pentachloropyridine (PCP), which is synthesized in California and transported to Texas. Furthermore, no data are provided on air emissions and it is stated that TCPCN is not detected in water, but no information was provided on the limits of sensitivity of the analytical methods used.

In addition, it is stated that TCPCN is "typically" not found in downstream products. What is meant by "typically," and has it in fact been looked for in all such products?

Until the above issues are addressed, we cannot conclude that TCPCN can be classified as a site-limited intermediate. And we defer to EPA whether the findings necessary to establish such status have been met in this case.

The second key issue is that there are apparently no data on TCPCN that can be used to meet requirements for SIDS endpoints. The sponsor proposes to use data from PCP as a surrogate, and bases this proposal on a single statement made in the test plan that the results of QSAR modeling indicate that the two chemicals are likely to behave in a similar manner. No other data are provided to substantiate this claim and the robust summaries contain no information on TCPCN. This hardly constitutes sufficient justification. Several questions must be addressed before surrogate data from PCP can be used to satisfy requirements of the HPV Program. First, what is the impact of the carbonitrile moiety on the ecotoxicity and mammalian toxicity of TCPCN? Second, what is the impact of the additional chlorine substitution on the ecotoxicity and mammalian toxicity of TCPCN? It is well known that alterations in the pattern of chlorine substitutions on ring structures can dramatically alter the pattern and potencies of toxicities of chemicals, e.g., structural analogs of PCBs, dioxins and

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furans. For example, a shift of one chlorine atom in PCBs can confer dioxin-like properties and/or change the biological half-lives from hours to years. Third, did the QSAR evaluations indicate any differences between PCP and TCPCN, and if so, what are they and are they toxicologically relevant? Fourth, even if the PCP data could be used as a surrogate, the data presented in the robust summaries are incomplete; no data were provided for mutagenicity and reproductive/ developmental toxicity. Even assuming site-limited intermediate status is demonstrated, mutagenicity and developmental toxicity are still required endpoints.

The above comments summarize numerous inadequacies in the test plan and robust summaries, raising several critical questions regarding the justification that TCPCN can be considered a site-limited intermediate and that PCP data can be used as a surrogate. Therefore, we recommend that the sponsor address these deficiencies in a revised test plan and propose studies as needed. If these questions cannot be fully addressed in a revised plan, then we recommend that studies be conducted to meet all SIDS endpoints.

Thank you for this opportunity to comment.

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